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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,326	02/26/2004	Jun-seo Lee	Q78241	2660

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EXAMINER	
BELANI, KISHIN G	

ART UNIT	PAPER NUMBER
2143	

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08/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/786,326	LEE, JUN-SEO	
	Examiner	Art Unit	
	Kishin G. Belani	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/02/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of the certified copy dated 3/12/2003 and submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement submitted on 08-02-2006 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness
or nonobviousness.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Crow et al. (U.S. Patent Application Publication # 2002/0161915 A1)** in view of **Ganesan et al. (U.S. Patent Application Publication # 2003/0069973 A1).**

Consider **claim 1**, Crow et al. show and disclose a method for receiving a plurality of packets from a network and distributing the packets to a plurality of protocol processors (Fig.1, that shows a Border Router 16 receiving a plurality of packets from the Internet 22, and distributing the packets to a plurality of protocol processors 24; paragraph 0018 discloses the same details) comprising the steps of:
if a received packet is a fragmented packet, determining whether the received packet is a first fragment packet (Flowchart of Fig. 4, blocks 102 and 108 that test for a fragmented received packet and then check if it is the first (primary) fragment packet; paragraph 0037, lines 1-5 that disclose testing for a fragmented packet; paragraph 0038 that discloses a test for the fragmented received packet being the first such packet);
if the received packet is the first fragment packet, looking-up a fragment ID of the received packet, and comparing the result of the looked-up fragment ID with each list of a fragment look-up table into which the results of fragment looked-ups for other received packets are entered, to determine if there is a corresponding list (Fig. 4, block 110; paragraph 0039, lines 1-4 that disclose searching a translation table 82 into which the results of fragment looked-ups for other received packets are entered, to determine if there is a matching entry);

searching an index indicating one of the protocol processors, and if the list corresponding to the result of the looked-up fragment ID exists in the fragment look-up table, entering the index into the corresponding list of the fragment look-up table (Fig. 4, block 114; paragraph 0040 that describes generating a fragment-context 92 (shown in Fig. 3) for the identified translation entry); and

attaching the index as a tag to the received packet and transmitting the received packet to the corresponding one of the protocol processors (Fig. 4, block 116, paragraph 0041, lines 1-6 that disclose the translation process for the primary packet).

However, Crow et al. do not disclose a method for looking up a tunnel ID of the received packet from a tunnel ID look-up table.

In the same field of endeavor, Ganesan et al. disclose a method for looking up a tunnel ID of the received packet from a tunnel ID look-up table (Flowchart of Fig. 11, blocks 1120 and 1122; paragraph 0177 which discloses that for received packets, based on the tunnel ID of the packet, NAT (Network Address Translation) lookups and mappings are applied, thereby disclosing looking up a tunnel ID of the received packet from a tunnel ID look-up table).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a method for looking up a tunnel ID of the received packet from a tunnel ID look-up table, as taught by Ganesan et al., in the method of Crow et al., so that encapsulated received packets can be securely delivered through the firewall of the receiving node.

Consider **claim 2**, and **as it applies to claim 1 above**, Crow et al., as modified by Ganesan et al., further show and disclose a method, wherein the step of entering the index into the corresponding list of the fragment look-up table, includes newly entering the result of the looked-up fragment ID and the index into the fragment look-up table, if the list corresponding to the result of the looked-up fragment ID does not exist in the fragment look-up table (Fig. 3 that shows a sample address translation entry; Flowchart of Fig. 4, blocks 110-114; paragraph 0040 that discloses the process of generating a fragment-context 92 (shown in Fig. 3) for the identified translation entry 90).

Consider **claim 3**, and **as it applies to claim 1 above**, Crow et al., as modified by Ganesan et al., further show and disclose the claimed method, wherein the step of transmitting the received packet includes attaching the index as the tag to a packet that has been previously received and stored in a fragment buffer and transmitting the previously received and stored packet to the corresponding one of the protocol processors, if the received packet is the first fragment and the list corresponding to the result of the looked-up fragment exists in the fragment look-up table (Flowchart of Fig. 4, blocks 108-116 that disclose processing details for a primary (first) received fragmented packet, with block 116 showing the existence of a list corresponding to the result of the looked-up fragment in the fragment look-up table; block 118 and 120, wherein block 120 shows packets that have been previously received and stored in a fragment buffer).

Consider **claim 4**, and **as it applies to claim 1 above**, Crow et al., as modified by Ganesan et al., further show and disclose the claimed method, wherein if the received packet is not the first fragment (Flowchart of Fig. 4, block 108; paragraph 0042, lines 1-4 that disclose the processing of a received packet that is not the first fragment), further comprising the steps of:

looking-up the fragment ID of the received packet and comparing the result of the looked-up fragment ID with each list of the fragment look-up table, to determine if there is a corresponding list (Flowchart of Fig. 4, block 118; paragraph 0042, lines 4-10 that describe looking-up the fragment ID of the received packet and comparing the result of the looked-up fragment ID with each list of the fragment look-up table, to determine if there is a corresponding list);

entering the result of the fragment ID looked-up for the received packet into the fragment look-up table, if the list corresponding to the result of the looked-up fragment does not exist in the fragment look-up table (Flowchart of Fig. 4, block 114; paragraph 0040, lines 1-6 that disclose generating a fragment-context 92 for the identified translation entry 90); and

storing the received packet in a fragment buffer (Flowchart of Fig. 4, block 120; paragraph 0042, lines 14-17 which disclose that the secondary fragment 34 is stored in the fragment memory 84).

Consider **claim 5**, and **as it applies to claim 4 above**, Crow et al. show and disclose a method of the claimed invention, wherein if the list corresponding to the result

of the looked-up fragment ID exists in the fragment look-up table (Flowchart of Fig. 4, blocks 108 and 122; paragraph 0042 which discloses a check for presence of the list corresponding to the result of the looked-up fragment ID in the fragment look-up table; paragraph 0043, lines 1-4 which disclose that the list corresponding to the result of the looked-up fragment ID exists in the fragment look-up table), further comprising the steps of:

determining whether the index corresponding to the result of the tunnel ID look-up exists in the corresponding list (Flowchart of Fig. 4, block 122; paragraph 0043 which discloses that the list corresponding to the result of the looked-up fragment ID exists in the fragment look-up table); and

attaching the index as the tag to the received packet and transmitting the received packet to the corresponding one of the protocol processors, if the index exists in the corresponding list (Flowchart of Fig. 4, block 124; paragraph 0043, lines 7-13 which disclose that the secondary fragment is translated using the identified entry 90 and transmitted to one of the protocol processors).

However, Crow et al. do not disclose a method for determining whether the index corresponding to the result of the tunnel ID look-up exists in the corresponding list.

In the same field of endeavor, Ganesan et al. disclose a method for determining whether the index corresponding to the result of the tunnel ID look-up exists in the corresponding list (Flowchart of Fig. 11, blocks 1120 and 1122; paragraph 0177 which discloses that for received packets, based on the tunnel ID of the packet, NAT (Network

Address Translation) lookups and mappings are applied, thereby disclosing looking up a tunnel ID of the received packet from a tunnel ID look-up table).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a method for determining whether the index corresponding to the result of the tunnel ID look-up exists in the corresponding list, as taught by Ganesan et al., in the method of Crow et al., so that encapsulated received packets can be securely delivered through the firewall of the receiving node.

Consider **claim 6**, and **as it applies to claim 5 above**, Crow et al., as modified by Ganesan et al., further show and disclose the claimed method, comprising the step of storing the received packet in the fragment buffer, if the index does not exist in the corresponding list (Flowchart of Fig. 4, blocks 108 and 120; paragraph 0042, lines 14-17 which disclose that the secondary fragment 34 is stored in the fragment memory 84, if a fragment-context 92 does not exist for the secondary fragment 34 in the translation table 82).

Consider **claim 7**, Crow et al. show and disclose an apparatus for distributing a plurality of packets to a plurality of protocol processors (Fig.1, that shows a Border Router 16 receiving a plurality of packets from the Internet 22, and distributing the packets to a plurality of protocol processors 24; paragraph 0018 discloses the same details) comprising:

a receiving unit for receiving the packets from a network (In Fig. 1, shown by the right link between the Internet 22 and the Border Router 16);

a fragment look-up table storage unit for storing fragment look-up table into which the result of a fragment looked-up on the received packet is entered (Fig. 1, Translation Table 82; paragraph 0029, lines 1-5 that disclose the storage unit for a fragment look-up table);

a fragment look-up device for comparing the result of the fragment looked-up on the received packet with each list of the fragment look-up table, to determine whether the list corresponding to the result exists (Fig. 1, translation Engine 80; paragraph 0029, lines 1-5 that disclose the translation engine 80); and

a dependant interface for transmitting the packet attached with the index to the corresponding one of the protocol processors (In Fig. 1, shown by the left link 20 between the Border Router 16 and Protocol Processor Hosts 24).

However, Crow et al. do not disclose an apparatus containing a tunnel ID look-up table storage unit for storing a tunnel ID look-up table having lists of indexes indicating the protocol processors corresponding to the tunnel IDs of the packets, respectively; and a tunnel ID look-up device for searching the index corresponding to the result of the tunnel ID looked-up on the received packet from the tunnel ID look-up table to attach the index as a tag to the received packet.

In the same field of endeavor, Ganesan et al. disclose an apparatus containing a tunnel ID look-up table storage unit for storing a tunnel ID look-up table having lists of indexes indicating the protocol processors corresponding to the tunnel IDs of the

packets, respectively (Figure 6B, remote hash table rhashtbl_t, that includes storage for vpn_id which corresponds to tunnel information table); and

a tunnel ID look-up device for searching the index corresponding to the result of the tunnel ID looked-up on the received packet from the tunnel ID look-up table to attach the index as a tag to the received packet (Fig. 8, VPN/IKE Module 830 performing the function of a tunnel ID look-up device; Flowchart of Fig. 11, blocks 1120 and 1122; paragraph 0177 which discloses that for received packets, based on the tunnel ID of the packet, NAT (Network Address Translation) lookups and mappings are applied, thereby disclosing a tunnel ID look-up device for searching the index corresponding to the result of the tunnel ID looked-up on the received packet from the tunnel ID look-up table to attach the index as a tag to the received packet).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an apparatus containing a tunnel ID look-up table storage unit for storing a tunnel ID look-up table having lists of indexes indicating the protocol processors corresponding to the tunnel IDs of the packets, respectively, and a tunnel ID look-up device for searching the index corresponding to the result of the tunnel ID looked-up on the received packet from the tunnel ID look-up table to attach the index as a tag to the received packet, as taught by Ganesan et al., in the apparatus of Crow et al., so that encapsulated received packets can be securely delivered through the firewall of the receiving node.

Consider **claim 8**, and **as it applies to claim 7 above**, Crow et al., as modified by Ganesan et al., further show and disclose an apparatus, wherein if the list corresponding to the result of the looked-up fragment does not exist in the fragment look-up table, the fragment look-up device newly enters the result of the looked-up fragment and the index into the fragment look-up table, if the received packet is a first fragment (Fig. 3 that shows a sample address translation entry; Flowchart of Fig. 4, blocks 110-114; paragraph 0040 that discloses the process of generating a fragment-context 92 (shown in Fig. 3) for the identified translation entry 90, if the received packet is a first fragment); and newly enters the result of the looked-up fragment into the fragment look-up table, if the received packet is not the first fragment (Flowchart of Fig. 4, block 118; paragraph 0042, lines 4-10 that describe looking-up the fragment ID of the received packet which is not the first fragment and comparing the result of the looked-up fragment ID with each list of the fragment look-up table, to determine if there is a corresponding list; Flowchart of Fig. 4, block 114; paragraph 0040, lines 1-6 that disclose generating a fragment-context 92 for the identified translation entry 90).

Consider **claim 9**, and **as it applies to claim 7 above**, Crow et al., as modified by Ganesan et al., further show and disclose an apparatus comprising, if the list corresponding to the result of the looked-up fragment and including the index does not exist in the fragment look-up table, a fragment buffer for storing the received packet if the received packet is not the first fragment (Flowchart of Fig. 4, block 120; paragraph 0042, lines 14-17 which disclose that the secondary fragment 34 is stored in the

fragment memory 84, if the received packet is not the first fragment and there is no corresponding list in the fragment look-up table).

Consider **claim 10**, and **as it applies to claim 9 above**, Crow et al., as modified by Ganesan et al., further show and disclose an apparatus wherein if the list corresponding to the result of the looked-up fragment and including the index exists in the fragment look-up table, the fragment look-up device attaches the index as the tag to the received packet to transmit the received packet to the corresponding one of the protocol processors (Flowchart of Fig. 4, block 124; paragraph 0043, lines 7-13 which disclose that if a list corresponding to the looked-up fragment exists in the fragment look-up table, the secondary fragment is translated using the identified entry 90 and transmitted to one of the protocol processors).

Consider **claim 11**, and **as it applies to claim 9 above**, Crow et al., as modified by Ganesan et al., further show and disclose an apparatus wherein in the case of the received packet being the first fragment, the fragment look-up device attaches the index as the tag to each packet being a subsequent fragment following the first fragment and being stored in the fragment buffer to transmit each subsequent fragment packet via the dependant interface to the corresponding one of the protocol processors, if the list conforming to the result of the looked-up fragment exists in the fragment look-up table (Flowchart of Fig. 4, blocks 108-116 that disclose processing details for a primary (first) received fragmented packet, with block 116 showing the existence of a list

corresponding to the result of the looked-up fragment in the fragment look-up table; block 118 and 120, wherein block 120 shows packets that have been previously received and stored in a fragment buffer being transmitted).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US Patent Application Publication # 2002/0095512 A1, inventors: Rana et al. filed 02/23/2001

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Art Unit: 2143

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-

1768. The Examiner can normally be reached on Monday-Thursday from 6:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-0800.

Kishin G. Belani

K.G.B./kgb

August 12, 2007

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